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ABSTRACT

"Smaller is better" is often the mantra of school leaders with regard to class size, while the benefits of smaller schools are ignored. Benefits of small classes seem obvious--teachers with fewer students could devote more time to each student. Conducted in 1985-89, Tennessee's Project STAR (Student/Teacher Achievement Ratio) found that students in smaller classes for 4 full years, K-4, were 5 months ahead of peers by grade 8. These results were widely publicized and influenced public policy across the country. Subsequently, other researchers found major flaws in the STAR study, but policy implementation in other states had already begun. In 1996 California began a massive effort to lower the average K-3 class size from 28 to 20. Despite costing an estimated $8 billion, class size reduction has produced no achievement gains, according to state-commissioned evaluators. Other research in the United States and other countries has also failed to support small-class assumptions. On the other hand, a lot of evidence indicates that decreasing school size is a more promising reform than smaller classes. Research has shown that small schools can offer a strong core curriculum and comparable levels of academically advanced courses; are safer; and produce greater feelings of connectedness and engagement among students. Since World War II, the average school size has grown by a factor of five, student-teacher ratios have sharply declined, and academic achievement has fallen. These phenomena alone show that "smaller is better" for schools, not classes. It appears that politics may trump reality. (Contains 21 endnotes.) (SV)

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SIZING UP WHAT MATTERS

"Smaller is better" is often the mantra of school leaders with regard to class size. It is taken almost as an article of faith that smaller classes produce better academic results, and that reducing class size is a proven way to help America's schools. The effects of this sort of near-religious fervor are most evident in the state of California, which has undertaken a statewide mission to shrink class sizes.

What is proclaimed less often is the truth of "smaller is better" when applied to *school* size. Even parents whose children are benefiting from small schools - and who recognize those benefits – do not realize that having a small school is far more important than having children sit in small classes. But considering how loudly the education establishment and public officials recite the myth of smaller classes, it is little wonder that the word about smaller schools has been drowned out.

Why the Big Deal About Small Classes?

At first, the benefits of small classes appear to be obvious. It seems logical that if there are fewer students per teacher, then teachers will be able to devote more time and care to each student.

Tennessee's Project STAR (Student/Teacher Achievement Ratio) - a study conducted between 1985 and 1989 - seemed to support that conclusion. Over 6,000 students were involved in the study in which children from 79 schools were randomly sent to large, medium and small classes. The study's conclusion was that smaller classes led to significant performance improvement, estimating that students who stayed in small classes for four full years - kindergarten through grade 3 - ended up 5.4 months ahead of their peers by the time all had entered grade 8. Moreover, benefits for minorities outpaced the positive affects for white students, producing nearly twice the gains.[1] The STAR study seemed to substantiate all that pro-class-size-reduction forces had expected, and is now cited as fact by educators, academics and policy makers. As Harvard professor Frederick Mosteller gushed in 1995, Project STAR "is one of the most important educational investigations ever carried out and illustrates the kind and magnitude of research needed in the field of education to strengthen schools."[2]

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Falling STAR

While Project STAR dominated education conventions and the media, valid critiques of the study began to emerge.

Harvard University's Caroline Hoxby argued that the methodology of STAR was lacking. Its biggest flaw was that study participants knew they were being studied and hence tended to work to achieve outcomes desired by the researchers. As Hoxby writes, "the schools in a class size experiment may realize that if the experiment fails to show the that the policy is effective, the policy will never be broadly enacted. In such cases the schools have incentives that the fully enacted policy would not give . . . . the experiment alters the incentive conditions . . . In addition, some individuals temporarily increase their productivity when they are being evaluated."[3]

Eric Hanushek, then at the University of Rochester, also examined the study's methodology, but pointed to different shortcomings.[4] Among these were:

- Between 20 and 30 percent of students in STAR quit each year, leaving less than half of the original group by the study's end.
- The students who quit were disproportionately low performers, providing a statistical boost to smaller classes.
- No pretests were given to students at the beginning of the study, providing no baseline off of which to measure achievement gains.
- While students for the program were chosen randomly, teachers and schools were not.

The analyses revealed major shortcomings of Project STAR. But public policy had already begun to be implemented.

The California Experience

Inspired by STAR, the state of California forged a plan to implement a massive class-size-reduction effort. Starting in 1996 the Golden State set in motion a program to lower average state K-3 class size from an average of 28 to 20 students. Unfortunately for Californians, there has been no achievement gains as a result of reducing class size according to a series of reports by the state commissioned Class-Size-Reduction (CSR) Research Consortium, class-size-reduction has not achieved anything like even the questionable gains reported in the Tennessee experiment. In its third and most recent report, the Consortium reported finding no evidence that class-size-reduction has produced improved scores, though it has indisputably cost a great deal of money and displaced many effective programs and teachers. While they found that "achievement has been increasing during CSR's implementation," the researchers concluded that there "was no strong association between differences in exposure [to reduction efforts] and differences in achievement effects during this period."[5] In other words, there was no correlation between how long students were in reduced-size classes and changes in their test scores. And the cost to achieve so little? To date, an estimated $8 billion.[6]

What California Ignored

Beyond the considerable flaws of the Tennessee STAR project, there was much additional evidence California could have considered before it undertook the massive class-size-reduction experiment. To start, Californians could have looked outside the borders of the United States: Eigth-grade students in Singapore, Korea, Chinese Taipei, Japan, and Hong Kong have large math classes - often 10 to 20 more students on average than the US - yet eighth graders in those countries scored highest on the recently released TIMSS (Third International Math and Science Study) test.[7] Suet Ling Pong of the Pennsylvania State University also studied class size and concluded that the effect of class size on achievement is very small. Pong's study compared ten industrialized nations other than the U.S. and found that students in Australia, Flemish Belgium and France did significantly better in larger math classes, while class size had no effect on students in Canada, Germany, Iceland, South Korea and Singapore.[8]

Our own national tests reveal more directly that class-size-reduction does not positively affect performance. According to Stanford professor Eric Hanushek, between 1960 and 1995 the national pupil-teacher ratio fell by roughly one-third, which if class-size-reduction theory is correct would have led to a rise in test scores. That didn't turn out to be the case. Instead, SAT scores declined during the same period, and since the early '70s scores on the National Assessment of Educational Progress (NAEP) have been stagnant.[9] The national trend is clear: For decades student-teacher ratios have been in decline, going from 27.4 to 1 in 1955 to 16 to 1 today[10]. Yet, the "common sense" of class-size-reduction notwithstanding, academic achievement has been in a tailspin for almost the exact same period of time.

So What Should Be Shrunk?

Consider the recent study by Public Agenda, a New York based survey and research firm, titled: *Sizing Things Up: What Parents, Teachers and Students Think About Large and Small High Schools* reveals attitudes about life in small and large schools. The report's overall conclusion is striking: Despite overwhelming evidence that parents of children in small schools are happier with their children's education than large school parents, when asked, small school parents tend to automatically advocate for smaller *classes*, not smaller schools. As noted in the report, "After talking up the advantages of community in her child's small high school, for example, one parent seamlessly began talking about the advantages of smaller classes."[11]

This phenomenon should not be surprising given the unquestioned loyalty to smaller classes expressed in the media by teachers unions, politicians and other groups. But there is a great deal of evidence indicating that decreasing school size is a more promising reform than smaller classes. As Andrew Rotherham, director of the 21st Century Schools Project at the Progressive Policy Institute said, "the research is pretty clear on this point: Smaller schools help promote learning. And . . . research shows that small schools are able to offer a strong core curriculum and, except in extremely small schools, a comparable level of academically advanced courses."[12] In fact, small school research done at the University of Minnesota's Center for School Change found that

"whether located in an urban, suburban or rural area, small schools are safer and, in general, students in small schools learn more."[13]

The other advantages of small schools were recently documented in the exhaustive National Longitudinal Study of Adolescent Health. The study found that small schools produced greater feelings of "connectedness" among their students, in turn resulted in reduced risks of violence, substance abuse, suicide and pregnancy. And, perhaps more importantly for the school size/class size debate, according to Dr. Robert Blum, who authored the study, "It doesn't matter whether you have 20 or 30 kids in a class. It doesn't matter whether the teacher has a graduate degree. What matters is the environment that a student enters when he walks through the classroom door . . . . In smaller schools, students, teachers, and school administrators all have more personal relationships with each other. They know who you are. This is important to keep kids engaged and part of school."[14] In fact, the efficacy of small schools has begun to become so clear that the Bill and Melinda Gates Foundation has dedicated more than $345 million to help create more small schools across the country.[15]

Evidence that California has been suffering from swelling district and school size is as abundant as the lack of solid evidence for the value of smaller classes. For some reason Californians have shown a marked proclivity toward doling out education in big units. According to the National Center for Education Statistics (NCES), 11 of the 100 largest school districts in the country are in California. The massive Los Angeles Unified School District alone has 710,000 students, more than several states.[16] California also has the second largest mean school population at 776 students per school, trailing only Florida.[17]

So why the cold shoulder toward small schools? It appears politics may trump reality. The emphasis for school improvement has been put on class size reduction, no matter how poor its performance, in large part because of the power of the school employee unions and the politician's tendency toward issues that poll well. Former President Clinton was a major advocate for small classes nationally, and California Governor Gray Davis has long stumped for them. Perhaps typical is the rhetoric of California Teachers Association President Wayne Johnson, who recently called the multi-billion dollar undertaking "the most positive, effective education reform policy in California in the last 50 years,"[18] despite a dearth of results. Indeed, in an address to the CTA's State Council last October, Johnson repeatedly made calls for continued class-size-reduction, yet never once pled for reducing school size.[19]

Fortunately there is some good news. For starters, there have been some experiments with smaller schools conducted in the state: A few communities – inspired by the success of efforts in New York City, Chicago and Boston – have begun to create smaller school, including Oakland, Los Angeles and San Diego. But these efforts have largely been financed by the Gates Foundation and other private entities.[20] There hasn't been a public school-size reduction expenditure even close to approaching the nearly $8 billion spent by the state to reduce class sizes.

There is evidence that Californians are slowly becoming disillusioned with the state's failed class-size-reduction program. According to *Education Week*, "last month, as part of a $5.3 million budget-cutting move, the 24,000-student Irvine Unified School

District abandoned its class-size-reduction plan for kindergarten and grades 2 and 3, while keeping the program in the first grades . . . Irvine may soon have some company. Several other California districts facing shortfalls are thinking about eliminating part or all of their class size programs." Not surprisingly, the teachers union remains wholeheartedly behind class-size-reduction, seemingly blind to its at best ambiguous results. As reported in the same article, "'we're very concerned' about the future of class-size-reduction programs, said Darryl Lynette Figueroa, a spokeswoman for the 2.5 million member NEA. 'It really has been the key to successful school reform.'"[21]

Conclusion

Since the end of World War II, the number of schools in America has shrunk by 70 percent and the average school size has grown by a factor of five. Simultaneously, student-teacher ratios have been in sharp decline. While these trends were emerging, a more alarming pattern was developing -- academic achievement was falling. These phenomena alone make clear the point illuminated by so much other research: "smaller is better" for schools, not classes. Nonetheless, a fervent faith in class-size-reduction seems to hold sway among policy makers, educators, and even parents, a faith ultimately manifested in California's $8 billion class-size-reduction program. But as the California experience has shown, policymakers need to focus on the data and the results.

# # #

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